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मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

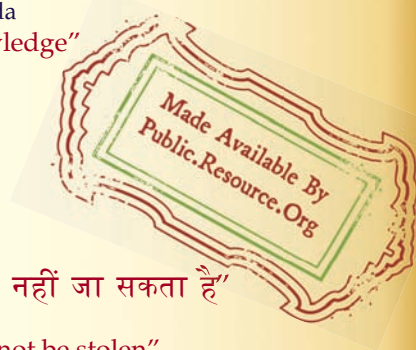
IS 11547-1 (1985): Electronic weighing in-motion systems, Part 1: Terminology and design rules [LITD 8: Electronic Measuring Instruments, Systems and Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

(Reaffirmed 2000)



SPECIFICATION FOR ELECTRONIC WEIGHING-IN-MOTION SYSTEMS

PART 1 TERMINOLOGY AND DESIGN RULES

1. Scope — Covers terminology and design rules relating to electronic weighing instruments and systems used for weighing trains in motion.

2. Terminology — The terminology given in IS : 9281 (Part 1)-1979 'Specification for electronic weighing system : Part 1 Terms and definitions' is applicable to weighing-in-motion systems when considered as static weighing instruments. The following definition apply when considered as dynamic weighing instruments.

2.1 Auxiliary Indicating Device — An indicator which is slave of an approved measuring instrument, and duplicates the indication, but is the only source of information for the purchaser or vendor and is therefore in use for trade.

2.2 Axle Weigher — A weighing instrument which measures the mass of each axle of the vehicles.

2.3 Bogie Axle Spacing — The distance between the outside axles of a bogie.

2.4 Bogie Weigher — A weighing instrument which measures the mass of each bogie of the vehicles.

2.5 Dynamic Calibration — The calibration of a weighing instrument to take into account the dynamic forces created by the vehicle while being weighed in motion.

2.6 Dynamic Error — The difference between the mass of a vehicle when weighed statically and the mass when weighed dynamically.

2.7 Track Switches — Switches mounted in the vicinity of the weighing instrument and operated by the vehicles while in motion. The switches are used to control the weighing process.

2.8 Weighing-in-Motion — The process of weighing vehicles while moving over the load receptor of the weighing instrument.

3. Design Rules

3.1 These rules relate to weighing instruments used for weighing trains in motion and indicating the mass of each wagon and/or the total train mass.

3.2 Metrological Principles

3.2.1 The weighing accuracy is independent of the principles of operation of the instrument and its method of indication.

3.2.2 The maximum permissible errors specified in IS : 9281 (Part 3)-1981 'Specification for electronic weighing systems : Part 3 Requirements' are applicable to weighing-in-motion instruments when tested with static test masses. Additional dynamic errors are applicable when the instrument is tested with moving test wagons of known mass.

The maximum permissible dynamic error of the total mass of the whole train is reduced from that specified for each individual wagon mass because of the averaging of the wagon errors in obtaining the total error.

Adopted 24 December 1985

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3.2.3 The errors are found using the test procedure specified in IS : 11547 (Part 3 / Sec 2) 'Specification for electronic weighing-in-motion systems : Part 3 Methods of tests, Section 2 Site tests (*under preparation*)'.

EXPLANATORY NOTE

While preparing this standard, assistance has been derived from manual No. 8 'Design manual for weighing-in-motion systems for trade use', issued by National Standards Commission of Australia.